MAMMALS OF
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THYLACINUS CYNOCEPHALUS.

THYLACINUS CYNOCEPHALUS.

Thylacinus.

Didelphis cynocephala, Harris, Trans. Linn. Soc., vol. ix. p. 174. pl. 19.
Dasyurus cynocephalus, Geoff. Ann. du Mus., tom. xv. p. 304.
Thylacinus cynocephalus, Fisch. Syn. Mamm., p. 270.—Wagn. in Schreb. Saug. Supp., 109-110 Heft, p. 19.—Waterh. Nat. Lib. (Marsupialia), vol. xi. p. 123. pl. 5.—Ib. Nat. Hist. Mamm., vol. i. p. 456. pl. 16. fig. 2.
Thylacinus Harrisii, Temm. Mon. de Mamm., vol. i. p. 63. pl. 7. figs. 1-4.
Peracyon cynocephalus, Gray, List of Mamm. in Brit. Mus., p. 97.
Tiger, Hyæna, Zebra-Opossum, Zebra-Wolf, and *Dog-headed Opossum* of the Colonists.

The circumstance of a fine pair, male and female, of the *Thylacinus cynocephalus* being now living in the Gardens of the Zoological Society in the Regent's Park, enables me to give the best figure of the animal that has yet appeared; and so great is the interest which attaches to this singular species, that I have been induced to give a representation of its head of the natural size, in addition to that of the entire animal on a reduced scale. Tasmania, better known as Van Diemen's Land, is the country it inhabits, and so strictly is it confined to that island, that I believe no instance is on record of its having been found on the neighbouring continent of Australia. It must be regarded as the most formidable, both of the Marsupialia and of the indigenous mammals of Australia; for although too feeble to make a successful attack on man, it commits sad havoc among the smaller quadrupeds of the country, and among the poultry, and other domestic animals of the settler; even sheep are not secure from its attacks, which are the more difficult to be guarded against, as the habits of the animal being nocturnal, they are always made at night. The destruction it deals around has, as a matter of course, called forth the enmity of the settler, and hence in all cultivated districts the animal is nearly extirpated; on the other hand, so much of Tasmania still remains in a state of nature, and so much of its forest land yet uncleared, that an abundance of covert still remains in which the animal is secure from the attacks of man; many years must therefore elapse before it can become entirely extinct; in these remote districts it preys upon *Halmaturus Billardieri* and *H. Bennetti*, *Bandicoots*, *Echidnæ*, and all the smaller animals.

In confinement it is excessively shy, and on being alarmed dashes and leaps about its cage in the most violent manner, uttering at the same time a short guttural cry resembling a bark; but whether this sound is also emitted in a state of nature, has not been observed. Mr. Ronald C. Gunn, who has had better opportunities than any other scientific man of observing the animal in its native wilds, states that it is common in the more remote parts of the colony, and that it is often caught at Woolnooth and the Hampshire Hills. He has seen some so large and powerful, that a number of dogs would not face one of them. Its attacks on sheep are usually made by night, but it also prowls about in the day-time, when, perhaps from its imperfect vision by day, its pace is very slow.

Mr. Harris, to whom we are indebted for our first knowledge of the animal, states that it dwells among caverns and rocks in the deep and almost impenetrable glens in the neighbourhood of the highest mountains of Van Diemen's Land. The specimen from which his description was taken, was caught in a trap baited with kangaroo's flesh; it remained alive but a few hours, having received some internal hurt while being secured; it appeared exceedingly inactive and stupid, and, like the Owl, kept almost continually moving the nictitating membrane with which the eye is furnished: the remains of an Echidna were found in its stomach.

In a letter lately received from Mr. Gunn by D. W. Mitchell, Esq., Sec. Zool. Soc., dated Launceston, Nov. 12, 1850, the following note occurs respecting the specimens in the Society's menagerie:—

"I feel little doubt but that the Thylacines will do well and very probably breed; the number of young is four at a litter—at least I have seen four in the female's pouch, but there may often be fewer. They inhabit the summits of the western mountains (alt. 3500 feet), where, occasionally, snow falls for many months of the year, where the ground is sometimes covered with snow for weeks, and where frosts are severe; therefore I can imagine nothing in the climate of London likely to injure them very materially."

The fur is short, and closely applied to the skin, though of a somewhat woolly texture, owing to each of the hairs of which it is composed being waved; the general tint is greyish brown, but faintly suffused with yellowish; on the under parts of the body of a paler hue than the upper; the fur of the back is of a deep brown colour next the skin, and each hair, excepting those which form the transverse black bands, is yellowish brown towards and dusky at the point; on the abdomen the hairs are of a paler brown at the root, and brown white externally; the black bands are usually about fourteen in number; they commence immediately behind the shoulders and are at first narrow and confined to the back, but, proceeding towards the tail, they become gradually broader and are more extended on the sides; those on the haunches are longest and often forked at their extremities; the general tint of the head is rather paler than that of the body, and the region of the eye is of a whitish hue, but a dark spot is observable at the anterior angle of the eye, and a narrow dark line runs over the eye; the muzzle is dusky, the edge of the upper lip white; the eye is large, full, and of a blackish brown; long black bristles spring from the upper lip, a few also occur on the cheeks, and above the eyes; the limbs externally and the feet scarcely differ in colour from the body; the tail is clothed at the base with a somewhat woolly fur like that of the body, crossed by three or four black bands, but about the commencement of the second fourth of the tail the hairs become short and harsh, closely applied to the skin, brown on the upper surface and pale brown beneath; on the under surface of the apical portion of the tail the hairs are comparatively long, as well as at the point where they are blackish.

The animals are figured in life-like positions, but necessarily much reduced; the figure of the head represents that of the male of the natural size.

THYLACINUS CYNOCEPHALUS.

SARCOPHILUS URSINUS.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

SARCOPHILUS URSINUS.

Ursine Sarcophilus.

Didelphis ursina, Harris in Linn. Trans., vol. ix. p. 176. pl. 19. fig. 2.
Dasyurus ursinus, Geoff. Ann. du Mus., tom. xv. p. 305.—Temm. Mon. de Mamm., tom. i. p. 69.—Waterh. Nat. Lib. *Marsupialia*, p. 128.
Diabolus ursinus, Gray in App. to Grey's Journ. of Two Exp. to N.W. and W. Australia, p. 400. No. 12.—List of Mamm. in Brit. Mus., p. 97.
Dasyurus (*Sarcophilus*) *ursinus*, Waterh. Nat. Hist. Mamm., vol. i. p. 448.
Devil and *Native Devil* of the Colonists of Van Diemen's Land.

The Ursine Sarcophilus was one of the first of the native quadrupeds encountered by the early settlers in Van Diemen's Land, from whom its black colouring and unsightly appearance obtained for it the trivial names of Devil and Native Devil. It has now become so scarce in all the cultivated districts, that it is rarely, if ever, seen there in a state of nature; there are yet, however, large districts in Van Diemen's Land untrodden by man; and such localities, particularly the rocky gullies and vast forests on the western side of the island, afford it a secure retreat. During my visit to the continent of Australia I met with no evidence that the animal is to be found in any of its colonies, consequently Tasmania alone must be regarded as its native habitat.

In its disposition it is untameable and savage in the extreme, and is not only destructive to the smaller kangaroos and other native quadrupeds, but assails the sheep-folds and hen-roosts whenever an opportunity occurs for its entering upon its destructive errand.

Although the animal has been well known for so many years, little or nothing more has been recorded respecting it than that which appeared in the ninth volume of the Linnean Society's Transactions from the pen of Mr. Harris, who states:—

"These animals were very common on our first settling at Hobart Town, and were particularly destructive to poultry, &c. They, however, furnished the convicts with a fresh meal, and the flesh was said to be not unlike veal. As the settlement increased, and the ground became cleared, they were driven from their haunts near the town to the deeper recesses of the forests yet unexplored. They are, however, easily procured by setting a trap in the most unfrequented parts of the woods, baited with raw flesh, all kinds of which they eat indiscriminately and voraciously; they also, it is probable, prey on dead fish, blubber, &c., as their tracks are frequently found on the sands of the sea-shore.

"In a state of confinement they appear to be untameably savage, biting severely, and uttering at the same time a low yelling growl. A male and a female which I kept for a couple of months chained together in an empty cask, were continually fighting; their quarrels began as soon as it was dark (as they slept all day), and continued throughout the night almost without intermission, accompanied by a kind of hollow barking not unlike that of a dog, and sometimes a sudden kind of snorting, as if the breath was retained a considerable time and then suddenly expelled. They frequently sat on their hind parts, and used their fore paws to convey food to their mouths. The muscles of the jaws were very strong, as they cracked the largest bones asunder with ease."

Mr. Gunn remarks, that notwithstanding their comparatively small size, they are so fierce and bite so severely, that they are a match for any ordinary-sized dog.

The fur is coarse, moderate in length, and black, excepting on the head, tail and under parts of the body; a broad white band usually crosses the chest, and extends backwards on either side, more or less, over the base of the fore leg; and a second crosses the back near the root of the tail; the nose, the ears and the soles of the feet are of a fleshy pink.

Much diversity exists in the colouring of different individuals; in fact, scarcely two are found precisely alike; some being uniformly black, while others are crossed with bands of pure white; some having a white patch on the chest only, while others have a band of white stretching round the neck; and others again patches of the same hue across the fore or hind legs, or both.

Mr. Waterhouse states that a very fine specimen, which died in the menagerie of the Zoological Society, measured from the tip of the nose to the root of the tail 23 inches 9 lines; from the root to the tip of the tail 11 inches, and round the body at the chest 20 inches.

The drawing on the accompanying Plate was made by Mr. H. C. Richter, from a fine living specimen in the menagerie of the Zoological Society, and represents the animal about two-thirds of the natural size.

DASYURUS MACULATUS.

J. Gould and H. C. Richter del. et lith.

Hullmandel & Walton Imp.

DASYURUS MACULATUS.

Spotted-tailed Dasyurus.

The Spotted Martin, Phillip's Voy. to Bot. Bay, p. 276.—Martin, Cat., pl. 46.
Viverra maculata, Shaw, Gen. Zool., vol. i. pt. ii. p. 433.
Mustela Novæ-Hollandiæ, Meyen.
Dasyurus macrourus, Geoff. Ann. du Mus., tom. iii. p. 358.—Peron et Lesueur, Voy. aux Terr. Australes, pl. 33.—Temm. Mon. de Mamm., tom. i. p. 69.—Waterh. Nat. Lib. *Marsupialia*, vol. xi. p. 139. pl. 6.
——— *maculatus*, Gray, List of Mamm. in Brit. Mus., p. 98.—Waterh. Nat. Hist. Mamm., vol. i. p. 439.

The Spotted-tailed Dasyurus is universally dispersed over every portion of Van Diemen's Land suitable to its habits and mode of life; I have also received specimens from the Liverpool Range and similar districts of New South Wales; but from no other portion of Australia have I seen examples. Rocky gullies trending from the mountain ranges through primitive forests are the favourite abode of this animal, and here, like the Pole and Martin Cats of Europe, it skulks beneath large stones and in holes of the ground; it also ascends trees with the greatest facility in pursuit of birds, which, with bandicoots and other small quadrupeds, afford it an abundant supply of food. It is a strictly nocturnal animal, and, as might be supposed, a most dreaded enemy to poultry: it is consequently regarded by the settler as one of his greatest pests.

The sexes are not distinguishable in colour, neither do the young, which are from four to six in number, materially differ in this respect; the female, however, never attains the large size of the male. It is the largest species of the genus yet discovered, and differs from all its known congeners in the spotted markings of its tail.

Mr. Waterhouse having most carefully described the colour and markings of all the members of this genus, and in many instances from specimens in my own collection, I take the liberty of transcribing the following description from his valuable work:—

"The fur is harsh to the touch, and rather short; its colour varies from a very deep brown to a rich red brown; the head is always paler than the back, and sometimes assumes a yellowish hue, being much pencilled with this pale tint; other parts of the body are more or less pencilled with yellowish, and the whole under parts of the body, as well as the fore-legs and feet, are of a dirty yellow; the upper lip, chin and throat are of a more pure yellow tint; the toes of the fore feet are yellowish; the hind legs externally, and the hind feet, scarcely differ in tint from the upper parts of the body; the tail is nearly equal in length to the head and body, cylindrical, and clothed with tolerably long and harsh hairs; its general colour is the same as that of the body, or nearly so; the ears are short, clothed internally for the most part with small yellowish hairs, but at the margin the hairs are longer, and near the anterior angle they are tolerably long; on the outer side the ears are of the same colour as the crown of the head. With regard to the white spots with which this animal is adorned, they vary considerably in different individuals, and are very irregular in size and form; they are observed on the whole of the upper parts and sides of the body; some few are also visible on the under parts and on the legs; the head is usually immaculate, or presents but two or three very small spots; the spots on the tail are often large, but never numerous."

The Plate represents a male of the natural size.

J. Gould and H.C. Richter del. et lith.

DASYURUS HALLUCATUS.

Hullmandel & Walton, Imp.

DASYURUS HALLUCATUS, *Gould.*

North Australian Dasyurus.

Dasyurus hallucatus, Gould in Proc. of Zool. Soc., part x. p. 41.—Waterh. Nat. Hist. Mamm., vol. i. p. 434.
Cat. of Mamm. in Brit. Mus., p. 98.

The small number of specimens of the *Dasyurus hallucatus* that have come under my notice renders it unsafe for me to affirm that it is or is not subject to the variations in colour which are observable in *D. Viverrinus*; but I have reason to believe that such is the case. All the examples that have yet been sent to Europe have been procured in the extreme northern portion of the Australian continent, and the greater number of them from the Port Essington Settlement on the Cobourg Peninsula.

Mr. Waterhouse having instituted a very careful examination and comparison of this animal with the other members of the genus, I cannot do better than give his remarks verbatim from his "Natural History of the Mammalia," above referred to.

"This is the smallest species of the true Dasyures, being a trifle less than *D. Viverrinus* or *D. Geoffroyi*; with the latter animal it might be confounded, having like it a thumb to the hind feet; upon a close examination, however, I discovered several characters by which it might be easily distinguished. It is of smaller size than *D. Geoffroyi*, of a darker colour; with the ears of a paler colour and clothed with pale hairs; the longer hairs which cover the root of the ear externally are whitish; the toes of the hind foot are longer, since I found them to be seven lines in length in *hallucatus*, and only six and a quarter in a specimen of *Geoffroyi*, which was of the same sex and of considerably larger size; and, lastly, I find the whole sole, both of the fore and hind feet in *D. Geoffroyi*, covered with minute but distinct fleshy tubercles, as is also the case in *D. Viverrinus*; while in *D. hallucatus* I could scarcely perceive a trace of tubercles; and the fleshy pads at the base of the toes and elsewhere, on which the tubercles were most distinct in *Geoffroyi*, are covered with numerous oblique or transverse grooves; the pads, moreover, at the base of the toes, were much narrower and proportionately longer."

"The fur is less dense and harsher than in *D. Geoffroyi*; the upper parts of the body dusky brown, inclining to black, but pretty freely pencilled with yellowish, and having numerous, irregular and moderate-sized white spots, which extend likewise on the sides of the body; on the crown of the head are a few very small white spots; the under parts of the body are white, but suffused with yellowish; most distinctly so about the throat; the cheeks, a large patch above the eye, and the sides of the body are greyish; ears pinkish flesh colour, thinly clothed with small pale-coloured hairs; immediately at the base externally the hairs are longer and dense, and of a yellowish white colour, and the part of the head immediately adjoining the root of the ear has similar pale hairs; the tail is immaculate, cylindrical, clothed throughout with longish harsh hairs, but by no means bushy; the basal third is brownish, but considerably pencilled with black, and the remaining two-thirds almost entirely black; the feet are brownish, and the region of the pouch is clothed with very dark red hairs appearing as if stained with blood."

The figures are of the natural size.

DASYURUS GEOFFROYI.

DASYURUS GEOFFROYI, *Gould.*

Geoffroy's Dasyurus.

Dasyurus Geoffroyi, Gould in Proc. of Zool. Soc., part viii. p. 151.—Waterh. Nat. Lib. *Marsupialia*, p. 132.—Ib., Nat. Hist. Mamm., vol. i. p. 437.—Cat. of Mamm. in Brit. Mus., p. 98.

No other species of the present genus is so widely distributed over the continent of Australia as the *Dasyurus Geoffroyi*, which inhabits the whole of the southern portion of the country from Moreton Bay on the east to Swan River on the west. Unlike the *D. Viverrinus* and *D. maculatus* which frequent the country lying between the mountain ranges and the sea, the present animal appears to be exclusively confined to the regions on the interior side of the hills, the specimens I have seen having been procured on the Liverpool Plains in New South Wales, the Murray Scrub in South Australia, and beyond the ranges of Swan River on the western coast. I have stated of the other members of this genus that they are nocturnal in their habits, but that the present is not strictly so is shown by my having encountered one at midday while silently wandering in the Murray Scrub in South Australia, which, squirrel-like, ran up to the topmost branches of a neighbouring gum-tree, whence I immediately dislodged it with my gun in order to obtain a knowledge of the species.

I believe that the *Dasyurus Geoffroyi* is never subject to those variations of colour so conspicuous in *D. Viverrinus*.

Its brown tail clothed with much shorter hairs than in any of its congeners is a character by which it may at all times be distinguished from either of them.

I have named this species in honour of M. Geoffroy de St. Hilaire, the eminent French naturalist, in token of respect for his valuable labours in the field of science.

"The fur is moderately long, rather soft, and on the upper part of the body of greyish hue, but much suffused with yellow, and pencilled with black; and these parts moreover, as well as the sides of the body, are adorned with numerous irregular white spots; the head has a few small white spots only, and is often of a greyer hue than other parts, but the muzzle is somewhat tinted with brownish, and in front of the eye is a dusky patch; the ears are dusky brown and clothed externally with minute blackish brown hairs; internally with longish pencilled black and grey hairs, at or near the anterior margin; but towards the apex, and on the hinder parts, the hairs are minute and brownish; the under parts of the body are white, or very nearly so; the fore feet are brownish, sometimes brownish white; the hind feet are nearly white, or greyish suffused with yellow; the tail is yellowish at the base, but much pencilled with black, the ends of the hairs being of that colour; the black gradually increases towards the tip of the tail, and usually about one-third is entirely black."

The Plate represents the two sexes of the natural size.

DASYURUS VIVERRINUS.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

DASYURUS VIVERRINUS.

Variable Dasyurus.

The Spotted Opossum, Phillip's Voy. to Bot. Bay, p. 147. pl. 15.
Tapoa Tafa, White, Journ. of a Voy. to New South Wales, p. 285 and pl.
Didelphis Viverrina, Shaw, Gen. Zool., vol. i. pt. ii. p. 491. pl. 111.
——— *guttatus*, Desm. Nouv. Dict. d'Hist. Nat.
Dasyurus Viverrinus et *D. Maugei*, Geoff. Ann. du Mus., tom. iii. pp. 359, 360.—Temm. Mon. de Mamm., pp. 71, 72. pl. 7. figs. 1-8, skull and lower jaw.—Waterh. Nat. Hist. Mamm., vol. i. pp. 442, 444.—Ib. Nat. Lib. *Marsupialia*, pp. 133, 135, pl. 7.—Cat. of Mamm. in Brit. Mus. p. 97.

That the specific terms *Viverrinus* and *Maugei* have reference to one and the same animal, I had abundant opportunities of ascertaining during my residence in Van Diemen's Land; where not unfrequently litters came under my notice in which the prevailing colour of some of the young was black, and in others grey: to the former the old specific term of *Viverrinus* was applied, and to the latter the more modern one of *Maugei*.

The habits and economy of the present species are very similar to those of the Spotted-tailed Dasyurus; it also inhabits almost exclusively the same countries—Van Diemen's Land and New South Wales. During the daytime, hollow trees, holes in the rocks, and stony places form the retreats of this pretty animal; as night approaches, it becomes alert and active, and seeks for its living prey, which consists of small quadrupeds and birds without restriction to any particular species.

I believe that six will be found to be the normal number of the young, since that was the number contained in a litter I obtained in Van Diemen's Land, of which three were black, and three grey-coloured animals: the former, I am assured, are not, however, so regularly met with, and must be considered the variety. Mr. Waterhouse remarks, in his "Natural History of the Mammalia"—

"As no individuals presenting an intermediate condition of colouring are found, I at first suspected that the difference might be sexual; but such is not the case, since I have seen male specimens, both of the black and grey varieties. The former vary only from brown black to black; the under parts of the body and the feet are generally brownish. The fur on the back is grey next the skin, and that on the abdomen is also grey, but of a paler hue; the white spots on the body vary in size, some being very small, and others more than half an inch in diameter; on the head there are a few small white spots; the tail is bushy, being provided with long hairs, averaging on the basal portion about an inch in length, but of double that length at the point; on the under surface they are, however, comparatively short; in length the tail is about equal to the body; the ears are tolerably large and somewhat attenuated at the apex; they are clothed with short black hairs, which are most abundant on the outer surface, but are also plentiful on the inner surface at the point and near the anterior angle, in which latter part the hairs are considerably longer than elsewhere; the back of the ear is of a pale pink colour in the living animal, as is also the naked tip of the nose and the soles of the feet, the latter being also destitute of hair, but covered with small fleshy tubercles."

In the light-coloured animals:—"The general colour of the fur is greyish, but much suffused with yellow; each hair of the ordinary fur on the upper parts of the body is of a pale grey colour at the root, pale yellow near the point, and black at the point, and the coarser interspersed hairs have their visible portions almost entirely black; on the feet and under parts of the body the hairs are of an uniform yellowish white tint; the sides of the face are almost of an uniform pale yellow; the ears are for the most part rather sparingly clothed with pale hairs; at their base externally is a white spot; the tail is bushy, of the same general hue as the body at the base, but becomes gradually paler towards the opposite extremity, and is terminated with white or dirty yellow-white hairs."

The figures represent both states of the animal of the natural size.

PTEROPUS CONSPICILLATUS.

PTEROPUS CONSPICILLATUS, *Gould.*

Spectacled Vampyre.

Pteropus conspicillatus, Gould in Proc. of Zool. Soc., 1849, p. 109.

The native habitat of this fine species of Vampyre is Fitzroy Island, lying off the eastern coast of Australia, where it was discovered by Mr. John MacGillivray during the recent surveying voyage of H.M.S. Rattlesnake, under the command of the late Capt. Owen Stanley. It is about the same size as the *P. poliocephalus*, but has a somewhat larger head and much larger and more powerful teeth; it may moreover be distinguished from that species by the nuchal band being of a deep sandy buff, instead of deep rust-red, and not continuous round the neck; by the crown of the head and the back being almost jet-black; and by the eyes being conspicuously encircled with deep buff, whence the specific name, and which at once distinguishes it from every other known species.

I am indebted to Mr. MacGillivray for the following brief notes, which comprise all that is at present known respecting it:—

"On the wooded slope of a hill on Fitzroy Island, I one day fell in with this Bat in prodigious numbers, looking while flying along the bright sunshine, so unusual for a nocturnal animal, like a large flock of rooks; on close approach, a strong musky odour became apparent, and a loud incessant chattering was heard; many of the branches were bending under their load of bats, some in a state of inactivity suspended by their hind claws, others scrambling along among the boughs and taking to wing when disturbed. In a very short time I procured as many specimens as I wished, three and four at a shot, for they hung in clusters, but unless killed outright they remained suspended for some time; when wounded they are handled with difficulty, as they bite severely, and on such occasions their cry reminds one of the squalling of a child."

Crown of the head black, slightly grizzled with buff; round each eye a large oval patch of deep brownish buff, which advances on the sides of the face and shows very conspicuously; at the nape a broad crescent-shaped band of deep sandy buff, which extends down the sides of the neck and nearly meets on the breast; centre of the back glossy black, slightly grizzled with grey; cheeks, chin, all the under surface and rump black, slightly grizzled with buff; ears and wing-membranes naked, and of a deep purplish black; claws black.

The Plate represents a male of the natural size.

RHINOLOPHUS AURANTIUS.

J. Gould and H.C. Richter del et lith.

Hullmandel & Walton, Imp.

RHINOLOPHUS AURANTIUS, *Gray.*

Orange Horse-shoe Bat.

The Orange Horse-shoe Bat (*Rhinolophus aurantius*), Gray, App. to Eyre's Journ. of Exp. of Disc. into Central Australia, vol. i. p. 405. tab. 1. fig. 1.

The only information we possess respecting this beautiful Bat, is that it is abundant on the Cobourg Peninsula in Northern Australia; that it retires during the day-time to the hollow spouts and boles of the various species of *Eucalypti*; and that it sallies forth on the approach of evening in search of its insect food: its general habits and manners in fact so closely resemble those of the other members of the genus, that a separate description of them is quite unnecessary.

Mr. Gray, who characterized the animal in the Appendix to Mr. Eyre's "Travels," above referred to, from a specimen procured while flying near the Hospital at Port Essington, by Dr. Sibbald, R.N., remarks that it is "peculiar for the brightness and beauty of its colour, the male being nearly as bright as the Cock of the Rock (*Rupicola aurantia*) of South America."

The following is Mr. Gray's description of this pretty animal:—

"Ears moderate, naked, rather pointed at the end; nose-leaf large, central process small, scarcely lobed, blunt at the tip; fur elongate, soft, bright orange; the hairs of the back with short brown tips, of the under side rather paler, of the face rather darker; membranes brown, nakedish; tail rather produced beyond the membrane at the tip; feet small and quite free from the wings.

"The female pale yellow, with brown tips to the hair of the upper parts."

The figures are of the natural size.

BETTONGIA CAMPESTRIS.

Hullmandel & Walton, Imp.

BETTONGIA CAMPESTRIS, *Gould.*

Plain-loving Jerboa-Kangaroo.

Bettongia campestris, Gould in Proc. of Zool. Soc. Part xi. p. 81.
Hypsiprymnus (*Bettongia*) *campestris*, Waterh. Nat. Hist. Mamm., vol. i. p. 221.

It will be readily seen, on glancing at the accompanying Plate, that the *Bettongia campestris* cannot be confounded with any other species; its bluff head, the yellow colouring of its sides, and the peculiarly rigid texture of its fur being characters not combined in any of its congeners.

The stony and sandy plains of the interior of South Australia partially clothed with scrub are its native habitat, and I have not yet seen specimens of it from the other colonies either to the east or to the westward.

As confirmatory of its specific value I quote from Mr. Waterhouse, who says:—

"This is a very distinct species, remarkable for its short and broad head, and its general pale yellowish colouring.

"The hairs of the back are grey at the root, yellow in the middle, then blackish, followed by a long yellow white space, and black tip; on the chest and belly they are pale grey at the base and yellowish externally, but on the lower part of the abdomen the grey is wanting; the upper lip is white; the muffle is naked; tarsi rusty white; the tail is sparingly clothed with small pale hairs on the upper surface and sides; on the under part the hairs are more dense, harsher, and of a brownish white colour; the sides of the body and the outer surface of the hind legs are of a more distinct yellowish hue than the other parts."

The figures are of the natural size.

HYPSIPRYMNUS APICALIS.

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

HYPSIPRYMNUS APICALIS, *Gould.*

Tasmanian Rat-Kangaroo.

Ever since my visit to Australia I have been induced to consider the animal here figured, which is a native of Van Diemen's Land, to be distinct from the species known as the *Potoroo* or Kangaroo-Rat of "White's Journal," (*Potoroüs murinus*, Desm.), which inhabits New South Wales; it has not been an examination of dried skins which has induced this opinion, but abundant opportunities for observing the animal in a state of nature. Mr. Waterhouse, although he has made them identical, evidently had some doubt on the subject, since, when figuring the skull of the Van Diemen's Land animal, in comparison with that of the one from New South Wales, he places a note of interrogation after the name he has given to the former. I must admit that they are very closely allied, at the same time I find peculiar and well-marked characters by which they may each be distinguished from the other. The Tasmanian animal is always nearly a third larger in size, and has the tip of its tail white, a feature I have never seen in any other of the three species inhabiting the continent of Australia.

The *Hypsiprymnus apicalis* is very generally, I may say universally, dispersed over Van Diemen's Land; and I seldom failed to find it in low damp situations clothed with dense herbage: during the daytime it lies coiled up in its nest among the herbage in a depression of the ground; a very little noise near its retreat is, however, sufficient to disturb its repose, and cause it to dart away with rabbit-like rapidity to a place of security: it can seldom be induced to break covert into the open space, and if sharply pressed, invariably takes to the shelter of a large tree or stone, which everywhere abound; its food consists of roots, herbage, and the bark and leaves of trees. I must not omit to remark, that in no instance have I known dogs to partake of the flesh of this species either raw or dressed; while that of the members of the genus *Bettongia* is seldom refused. Mr. Richter has made so correct a drawing of this animal from life, and has so well represented in the reduced figures two of the positions frequently assumed by it, that a glance at the Plate will give more information on this point than any description.

The fur is long and of a dark hue; on the upper parts of the body it is of a dusky brown, a general tint produced by the admixture of brown and pale brownish yellow, the visible portion of the longer and coarser hairs being black, and that of the shorter fur of a pale yellow hue; the under surface of the body is of a dirty yellowish white or pale buff tint, with the fur of those parts as well as that of the back of a deepish grey colour next the skin; the ears are clothed internally with dirty white hairs, and externally with hairs of the same colour as the rest of the head; the feet are brown; the tail is of a darker hue than the body, and is tipped for about an inch with pure white; the muzzle is not only naked in front, but a narrow naked space continues upward towards the forehead.

The front figure represents the animal of the natural size.

HYPSIPRYMNUS PLATYOPS.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.

HYPSIPRYMNUS PLATYOPS, *Gould.*

Broad-faced Rat-Kangaroo.

Hypsiprymnus platyops, Gould in Proc. of Zool. Soc., part xii. p. 103.
——————(*Potoroüs*) *platyops*, Waterh. Nat. Hist. Mamm., vol. i. p. 231.

This species is the least of the family of Kangaroos yet discovered; and is so rare that an adult male in my own collection and another in that of the British Museum, both procured by Mr. Gilbert in Western Australia, one in the Walyema Swamps, near Northam in the interior, and the other at King George's Sound, are all the examples that have yet been seen. When compared with *Hypsiprymnus Gilberti* and its allies, the present species will be found to differ from the whole of them in several particulars; the more important of which are its smaller size and the great breadth of its zygomatic arches, which, together with the brevity of its nose, give to the facial aspect of the animal a very bluff appearance, not unlike that of the young Wombat.

At the time Mr. Waterhouse wrote the first volume of his "Natural History of the Mammalia," the specimen from which he took his description was the only one that had reached this country; the adult male I have since received differs in no material respect, and I therefore transcribe his remarks and description verbatim.

"This," says Mr. Waterhouse, "is a small and very distinct species, readily distinguished from *Hyps. minor* and *H. Gilberti* by its having the tip of the muzzle naked in front only; while in the two species first named the naked part of the muzzle is extended somewhat on the upper surface; the zygomatic arches (so far as may be judged from the skull enclosed in the skin) must be thrown boldly out from the cranium, and thus give the breadth to the face which suggested the specific name."

"The hairs constituting the fur, are, on the back, grey at the root, then yellowish brown, and this is followed by a long space in each hair which is white, and this again is succeeded by black, that being the colour of the tips of the hairs; the white portion, showing conspicuously, gives the upper parts of the body the appearance of being distinctly pencilled with that hue; on the under parts of the body each hair is pale grey at the root, and dusky white externally; the feet are dirty white, indistinctly grizzled with brownish; this latter tint being most distinct on the sides of the toes: the ears are short and rounded, externally clothed with longish hairs, which are partly brown and partly white, and internally with hairs which are of a dirty white."

The figures are of the natural size.

HAPALOTIS PENICILLATA, *Gould*.

J. Gould. and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

HAPALOTIS PENICILLATA, *Gould.*

Pencil-tailed Hapalotis.

Mus penicillatus, Gould in Proc. of Zool. Soc., Part X. p. 12.—Ann. and Mag. Nat. Hist., vol. x. p. 405.—List of Mamm. in Brit. Mus., p. 109.
Hapalotis melanura, List of Mamm. in Brit. Mus., p. 115.?

This animal was procured by Mr. Gilbert during his short sojourn at Port Essington on the Cobourg Peninsula in Northern Australia, in which part of the country it was also obtained by Mr. MacGillivray and sent by him to the late Earl of Derby; specimens from the same country are also contained in the collection at the British Museum.

It is in every respect a true *Hapalotis*, and may be readily distinguished from the other members of the genus by the blackness of its tail, the hairs of which are much lengthened; and by the rigid, almost spiny, nature of the hairs clothing the back. Its habits would seem to be somewhat singular, inasmuch as it is frequently found among the swamps on the sea-shore; I have no evidence, however, that it is not also found in the interior of the country. I find the following note respecting it among the papers of the late Mr. Gilbert:—

"This little animal is only seen on the beach where there are large *Casuarina* trees, in the dead hollow branches of which it forms a nest of fine dry grass, and retires during the day; in the evening it leaves its retreat and proceeds to the beach, where it may be seen running along at the edge of the surf as it rolls up and recedes, apparently feeding upon any animal matter washed up by the waves."

The fur of the upper surface is greyish brown grizzled with buff, with a rusty tint on the region of the occiput and back of the neck; around the angle of the mouth, the chin, throat, and all the under parts of the body, as well as the feet and inner side of the legs, are white with a faint yellow tint or cream-coloured, and the hair of these parts is of a uniform tint to the roots except on the chest, where they are grey next the skin: the tail is sparingly clothed at the base with minute bristly hairs; but about the middle the hairs become of a black colour and longer, and towards the apex attain a considerable length, measuring at and near the tip half an inch or more: the ears are sparingly clothed with minute hairs.

The figures represent the two sexes of the size of life.

ANTECHINUS MACULATUS.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.

ANTECHINUS MACULATUS, *Gould.*

Spotted Antechinus.

Antechinus maculatus, Gould in Proc. of Zool. Soc., Dec. 9, 1851.

The progress of civilization over the vast continent of Australia cannot fail to be the means of bringing to light many species of small quadrupeds at present entirely unknown to the zoologist; and the immense brushes which stretch along the southern and eastern coasts in particular, will, I feel confident, afford many treasures in this department of zoological science. During my short rambles in some of those extensive brushes, I frequently saw among the fallen leaves and thick herbage, many small, agile, mouse-like marsupials, which I found it impossible to procure, as they were too light to spring the ordinary traps, however lightly they might be set, and I was unprovided with any more suitable contrivances for capturing them; it must also be remembered that the difficulty of collecting them is much increased by their being all more or less nocturnal in their habits. Mr. Strange, however, from time to time sends me, among other objects, one of these little quadrupeds; and it is to him that we are indebted for our knowledge of the pretty species figured in the accompanying Plate, which was procured in the brushes near the river Clarence, a little to the southward of Moreton Bay. Contrarieties with regard to colouring and disposition of markings continually occur in the Australian Fauna, of which the present little animal offers another instance; since, contrary to the normal rule, we find it ornamented on the lower instead of the upper parts of the body.

The animal sent by Mr. Strange is a fully adult male and may be thus described:—

The fur is short, dense, and closely applied to the skin; the general tint of the upper surface is dark blackish brown, minutely grizzled with yellowish brown; lower part of the flanks and the under surface of the body dark brownish slate-grey, ornamented with oblong spots of white arranged in irregular rows in the direction of the body: there is also a streak of white down the centre of the throat.

The figures are of the natural size.

MUS FUSCIPES, *Waterh.*

J. Gould and H. C. Richter del. et lith.

Hullmandel & Walton, Imp.

MUS FUSCIPES, *Waterh.*

Dusky-footed Rat.

Mus fuscipes, Waterh. in Darwin's Zool. of the Voy. of H.M.S. Beagle, Mammalia, p. 66. pl. 25.—Cat. of Mamm. in Brit. Mus., p. 111.

—— *lutreola*, Gray, App. to Grey's Journ. of Two Exp. of Disc. in Australia, vol. ii. p. 409.

This species of Rat is distributed in abundance over the whole of the southern portion of Australia; but I have no evidence that its range extends to the north coast. Specimens from Swan River in Western Australia, the swamps and thick brushes of New South Wales, the intermediate colony of South Australia, and the islands in Bass's Straits, differ in no respect from each other. Its favourite haunts are low and humid situations where long grass and herbage abound, and the banks of freshwater brooks and lagoons

Although belonging to a different genus, it presents in its aquatic habits and in many of its actions a striking resemblance to the common Water Vole (*Arvicola amphibius*) of Europe; like that animal, it swims with the greatest ease, and may be constantly seen crossing and recrossing the small brooks and water-holes so abundant in the localities it frequents. It is rather less than the *Mus Rattus* in size, but is of a stouter form, and is moreover remarkable for the great length and softness of its fur, and the brown colour of its feet.

The general tint of the upper surface and the sides of the head and body is blackish brown, with an admixture of grey; of the under surface greyish white; the feet are brown, the hairs being greyish at the tip; the tail is black, and but sparingly clothed with short bristly hairs; the ears are rather sparingly clothed with hairs, which are for the most part of a brownish grey colour; the ordinary fur of the back is about three-quarters of an inch in length and very soft, of a deep grey colour broadly annulated with brownish yellow near, and blackish at, the tip; the longer black hairs measure upwards of an inch and a quarter in length; the incisor teeth are orange-coloured.

The figures in the accompanying Plate represent the animal correctly both in size and colour.

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